OKIDATA

Service Manual - OKIJET 2500

Chapter 0 Introduction

Front Cover

OKIDATA

Service Guide

OKIJET 2500 Service Manual

P/ N 59228801

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03/20/98

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Chapter 0 Introduction

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Edited by:
Okidata Training and Publications

Prepared by:
Multinational Customer and Service Education
Xerox Corporation, Rochester, New York 14644

Please address any comments on this publication to: Okidata's web site at: **www.okidata.com**

Telephone 609- 235- 2600

Facsimile 609- 222- 5320

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Service Manual - OKIJET 2500

Chapter 0 Introduction

About This Manual

This manual contains Repair Analysis Procedures, Repair Procedures, Adjustment Procedures, Parts List, Diagnostic Procedures, and Wiring Data information that will enable a Service Representative to repair the Printer.

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Organization

This manual is divided into seven sections. The title and description of each section are listed below.

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Section 1 - SERVICE CALL PROCEDURES

This section contains the following:

- Initial Actions / System Checks
- System Checkout
- Final Action

Initial Actions / System Checks

This diagram identifies how to collect the data necessary to decide how to proceed with the service call. It classifies the problem and refers you to the appropriate Repair Analysis Procedure.

System Checkout

The System Checkout procedure is used to verify that the printer is operating properly after a repair has been made.

Final Action

The Final Action procedure identifies the steps that must be performed before finishing the repair.

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Section 2 - REPAIR ANALYSIS PROCEDURES (RAPs)

This section contains the Repair Analysis Procedures (RAPs) necessary to repair faults. When using a RAP, always exit the procedure when the fault is fixed. Do not perform the remaining steps.

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Section 3 - IMAGE QUALITY REPAIR ANALYSIS PROCEDURES (RAPs)

This section contains the Repair Analysis Procedures (RAPs) necessary to repair print quality faults. The first RAP, IQ 1 Image Defect Entry RAP, is used to classify a print quality problem and will reference the RAP to be used to repair the problem. When using a RAP, exit the procedure when the fault is fixed. Do not perform the remaining steps.

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Section 4 - REPAIR / ADJUSTMENT PROCEDURES

This section contains the repair and adjustment procedures for the printer.

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Section 5 - PARTS LIST

This section contains the detailed Parts List for the printer.

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Section 6 - GENERAL PROCEDURES

This section contains Diagnostic Procedures and Product Specifications for the Printer. An Overview and Technical Overview section are also included.

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Section 7 - WIRING DATA

This section contains Plug/ Jack Location Drawings and Block Schematic Diagrams (BSDs).

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How To Use This Manual

The Service Call Procedures will direct you to the proper section of the Service Manual.

You should begin the service call with the Initial Actions / System Checks Procedure. From there, you will be referenced to either Section 2, Status Indicator RAPs or Section 3, Image Quality RAPs.

If you are sent to Section 3, you will perform the IQ 1 Image Defect Entry RAP to classify the print quality problem. You will then be directed to the proper RAP to begin your troubleshooting. From these RAPs you may be referenced to other sections of the manual to make checks, adjustments or to replace parts.

When you have made a repair, return to the System Checkout / Final Action to complete the call.

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Reference Symbology

Notes, adjustments, and parts lists support the checklists and the RAP information. The symbols that refer to this supportive data are shown below.

Note

This symbol is used to refer to notes found on the same page.

Adjustments

ADJ 4.1 This symbol refers to an adjustment procedure located in Section 4 of this Service Manual. The number adjacent to the symbol indicates the number that is assigned to that adjustment.

Parts List

PL 10.6 Refers to the parts list located in Section 5 of this Service Manual. The number after the PL designation indicates the number that is assigned to that part.

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Special Symbols

Descriptions of all commonly used graphic symbols are included in order to aid in troubleshooting when using the RAPs.

Interrupt Horizontal Signal

This indicates the continuation of a signal line which is interrupted in a horizontal direction.

Standby Power Input

This indicates the continuation of a standby power line which is interrupted in the vertical direction.

Left to Right Flow

This indicates the direction of signal flow.

Feedback

This indicates a feedback signal.

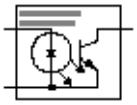
Flag

This is used to identify an area of a Circuit Diagram that you should check.

Ground

This indicates a machine ground.

LED / Phototransistor Sensor



This type of sensor is used in the paper path. It uses reflected light to switch the sensor off and on.

Without Tag Change

This signal indicates that the area the triangle points to has not been modified by the tag number in the circle.

This symbol indicates that the entire page has not been modified by the tag number in the circle.

With Tag Change

This symbol indicates that the area the triangle points to has been modified by the tag number in the circle.

This symbol indicates that the entire page has been modified by the tag number in the circle.

WARNING

A warning is used to alert the personnel to an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in injury or loss of life.

CAUTION

A caution is used to alert the personnel to an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

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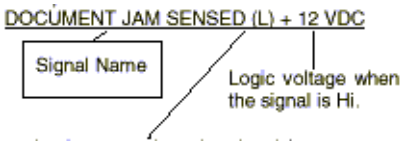
Signal Nomenclature

The signal is named to imply the condition of the machine when the signal is available.

For example:



Logic state when the signal is available in its named state. In this case, the signal is LOW when a document jam is sensed.

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DC Voltage Levels

DC voltages should be measured between the test point and machine GND, unless instructed otherwise. The table below shows the values of the voltages.

Nominal Voltage	Logic State	Actual Voltage Ranges
+5 VDC	H L	+4.8 to +5.2 VDC 0.0 to +1.0 VDC
+42 VDC	H L	+39.0 to +44.0 VDC 0.0 to +3.0 VDC

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Switches and Relay Contacts

Safety interlock switch that is open.

Safety interlock switch that is closed.

Switch or relay contacts with momentary contacts shown normally open.

Switch or relay contacts with momentary contacts shown normally closed.

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Introduction

Use the Service Call Procedures as a maintenance guide when performing any service on the printer.

- Printer Maintenance - This section contains a list of the printer subsystem components to be cleaned and /or lubricated and the cleaning and lubricating materials to be used, when that subsystem is accessed during a repair.
- Initial Actions / System Checks - This diagram identifies and classifies the printer problem and refers you to the appropriate RAP in order to repair the problem. When the problem has been repaired, perform the System Checkout / Final Action.
- System Checkout / Final Action - This procedure should be completed at the end of every repair call to ensure that the printer is operating properly.

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Printer Maintenance

Introduction

When the printer is being serviced, the following maintenance procedure should be performed.

Procedure

Clean the following parts every time the printer is serviced:

Description	Procedure
Cover	Clean using a Lint Free Tissue and water.
Paper Feed Roller	Clean using a Lint Free Tissue and water.
Paper Feed Pinch rollers and Paper Feed Guide	Clean using a Lint Free Tissue and water.
Maintenance Station	Clean using a Lint Free Tissue and water.

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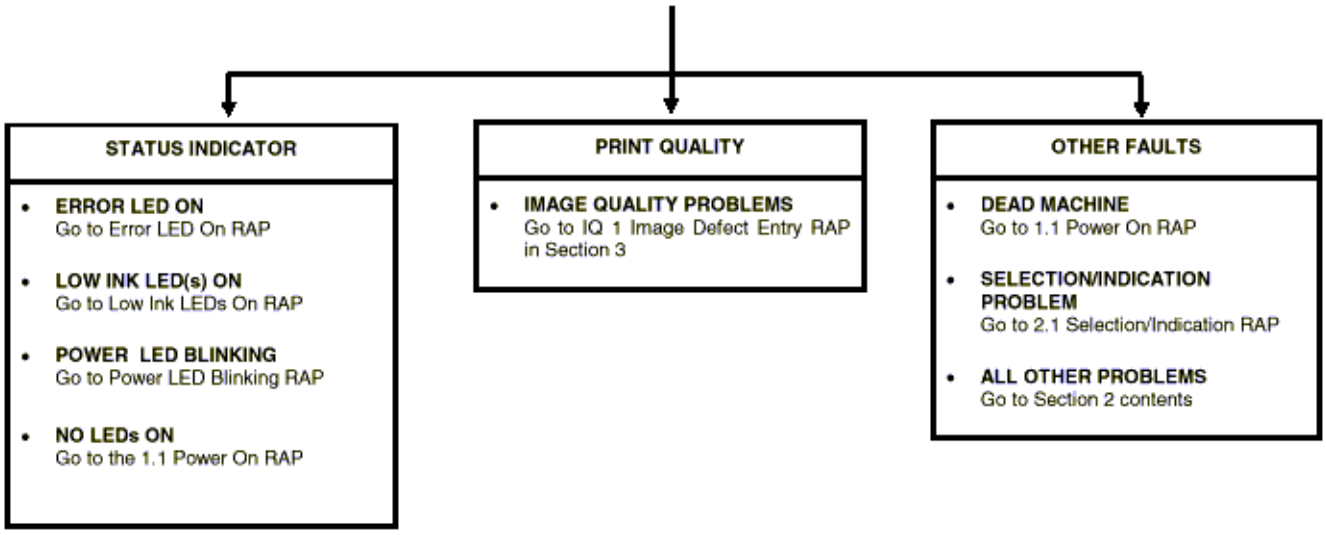
Initial Actions

1. QUESTION THE OPERATOR.

2. VERIFY, CLASSIFY AND REPAIR THE PROBLEM.


STATUS INDICATOR
ERROR LED ON
Go to Error LED On RAP
LOW INK LED(s) ON
Go to Low Ink LEDs On RAP
POWER LED BLINKING
Go to Power LED Blinking RAP
NO LEDs ON
Go to the 1.1 Power On RAP
PRINT QUALITY
IMAGE QUALITY PROBLEMS
Go to IQ 1 Image Defect Entry RAP in Section 3
OTHER FAULTS
DEAD MACHINE
Go to 1.1 Power On RAP
SELECTION/INDICATION PROBLEM
Go to 2.1 Selection/Indication RAP
ALL OTHER PROBLEMS
Go to Section 2 contents

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System Checkout / Final Action

Reset the Ink Level Sensing count to zero. Perform the following:

- Install a Color Printhead with empty ink cartridges.
- Run a Test Print.
- Remove the Printhead and install a Color Printhead with full ink cartridges.
- Run a Test Print.
- The NVM counts are now set to zero.

Print a file.
The Printer prints the selected file.
Y N

Refer to Initial Action / System Checks to begin your repair.

Evaluate the print.
Is the image quality acceptable?
Y N

Go to the image quality RAP identified by the IQ 1 Image Defect Entry RAP (Section 3).

Print and check the "Printing Alignment Test pattern".
The alignment is good.
Y N Go to the Printhead Alignment Procedure (Section Four).

Clean exterior of machine. Use a lint free tissue and water. Provide a sample of the Test Print.

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Error LED On RAP

Initial Action:
Ensure a color printhead is installed.

Remove the power cord from the printer for 10 seconds, then reinstall it.
Press the Power switch.
The Error LED is on steady.
Y **N**

The Error LED is flashing.
Y **N**
Press and hold the **Resume/FF** button for 2 seconds to print the demo print.

The Error LED is steady.
Y **N**
The Error LED is flashing.

Y **N**
Check the interface cable and connectors for an open wire or bad connection. If OK, replace the Main Control Board.

Go to Error LED Flashing RAP.

Remove the power cord from the printer for 10 seconds, then reinstall it.
Press and hold the Power switch for about 2 seconds.
The carriage was noisy.
Y **N**
The printhead stopped at each ink cartridge during the power-on cycle.
Y **N**
Go to 6.2 Encoder RAP.

A **B** **C** **D**

Go to 8.1 Paper Feed RAP.
Go to 6.1 Carriage RAP.
Go to Error LED Flashing RAP.

One or more low ink LED(s) are blinking.
Y **N**
Go to 6.1 Carriage RAP.
Go to Low Ink LED(s) on RAP.

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Power LED Blinking RAP

Remove the power cord from the printer for 10 seconds, the reinstall it.
The Power LED blinks.

Y	N
	Printer is OK.

Go to 2.1 Selection/Indication RAP.

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Low Ink LED(s) On RAP

Initial Action:

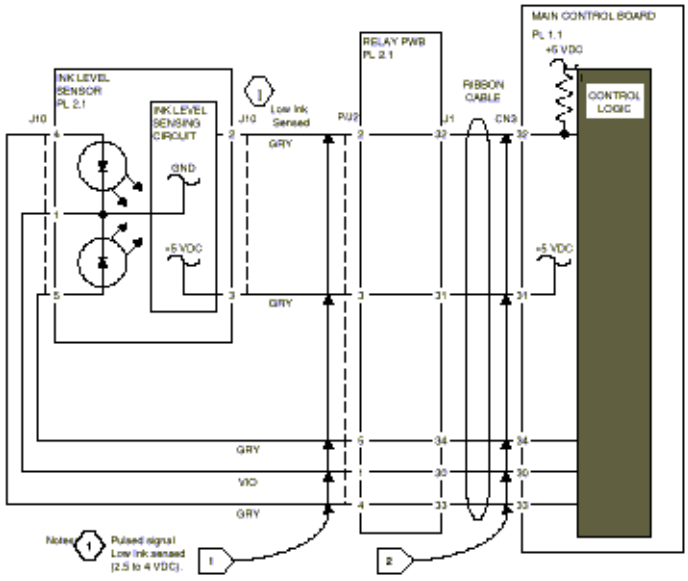
Ensure all the ink cartridges are full and properly seated.

Go to Flags 1 and 2. Check the wires and connections for an open circuit. **The wires are good.**

Y **N**

Repair the wires or connections if possible.
Replace the main control board.
If the problem still exists, replace the Printer.

Replace the Ink Level Sensor (PL 2.1) located in Chapter 5.
Replace the main control board.
If the problem still exists, replace the printer.



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Error LED Flashing RAP

Note: This procedure will work only when the Error LED is flashing.

Note: In the following procedure, the Error LED and Power LED will be used to display an 8 bit binary error code. The LEDs will flash in 1/2 second intervals. The code will be displayed 4 bits at a time. The LED code is as follows (See Figure 1):

1 = Both Error and Power LEDs lit

0 = Error LED only is lit

1. Press and release the Resume/ FF button, while observing the Error and Power LEDs.
2. 4 bits will be flashed in 1/ 2 second intervals followed by a pause, then 4 more bits in 1/ 2 second intervals. After the cycle, the Error LED will continue to flash.
3. Determine the code and go to the Error Code Chart (Table 1) for the corrective action.
4. Repeat step 1 as many times as necessary to determine the code.

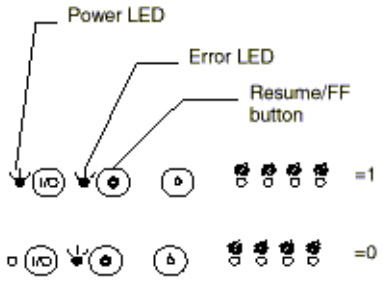

Figure 1. LED Code

Error Code	Error Description	Corrective Action
1000 1000	ROM error	Replace the Main Control Board
1000 1100	RAM error	Replace the Main Control Board
1100 1000	EPROM error	Replace the Main Control Board
1110 1000	CPU error	Replace the Main Control Board
1100 1111	Carriage home position error	Go to 6.1 Carriage RAP

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1.1 Power on RAP

Refer to Figure 1. **There is +42 VDC measured on the Main Control Board.**

Y **N**

Disconnect the power cord.
Check fuse F1 on the Power Supply.
F1 is blown.

Y **N**

Go to Flag 1 (Figure 2) and check the wires for an open circuit. If good, replace the Power Supply. If problem still exists, replace the Main Control Board.

Replace the blown fuse.
If the problem is not corrected, replace the Power Supply (PL 1.1).

Refer to Figure 1. There is +5 VDC measured on the Main Control Board.

Y **N**

Go to Flag 2 and check for a short to ground. If OK, replace the Power Supply. If problem still exists, replace Main Control Board.

Replace the Main Control Board before replacing the Control Panel Assembly.

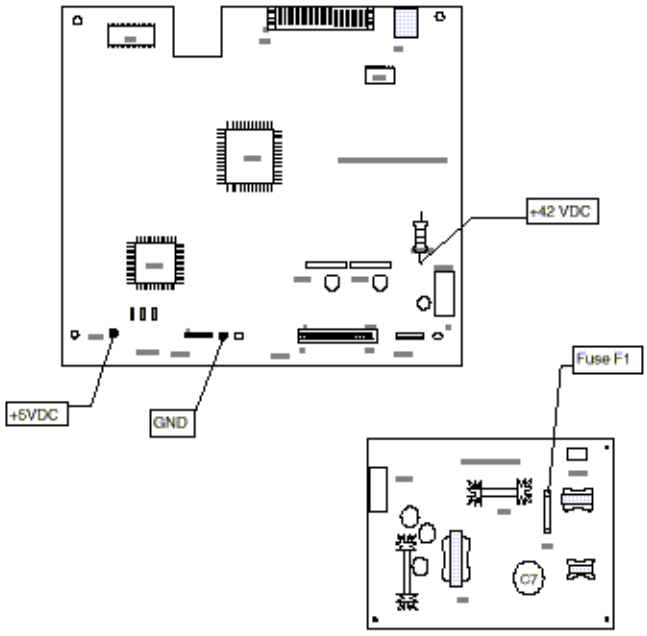

Figure 1. Voltage Measurements

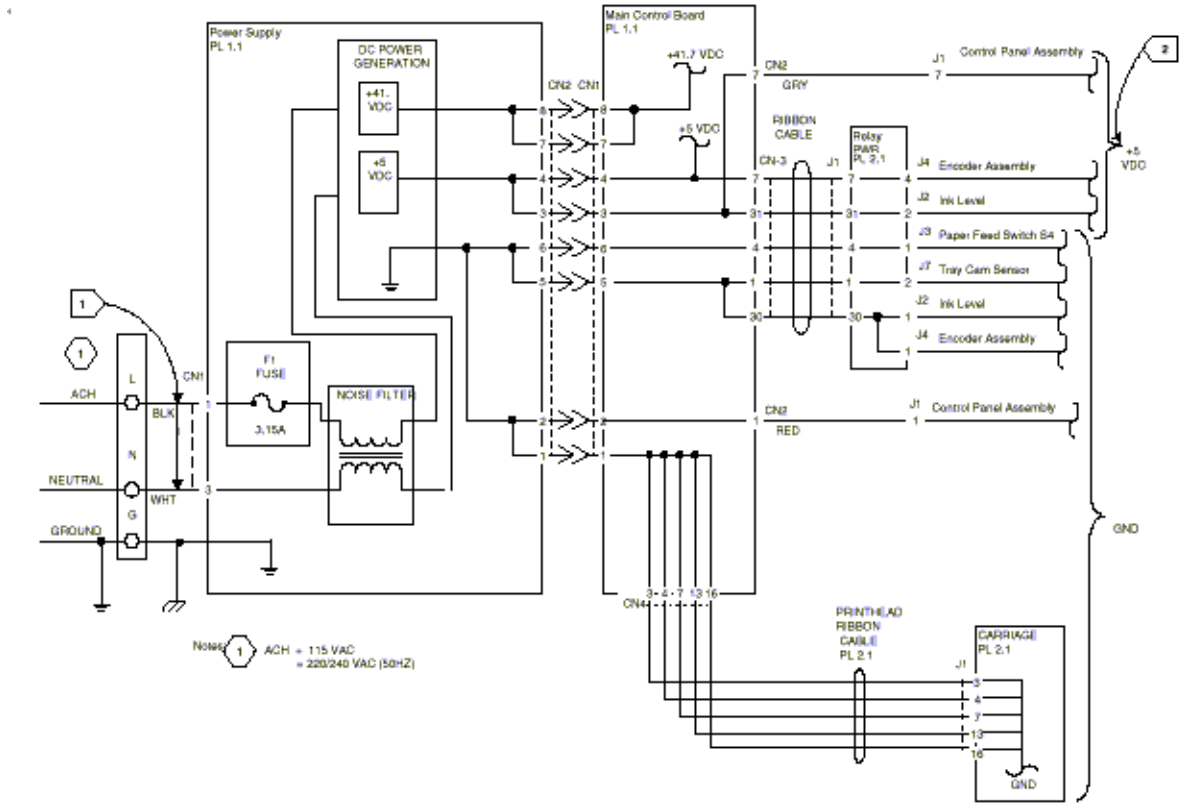

Figure 2. Power distribution

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2.1 Selection/Indication RAP

Load paper.
Disconnect and then reconnect the power cord while observing the LEDs.

All LEDs light momentarily when the power cord is reconnected.
Y **N**

One or more LEDs light.
Y **N**
Go to 1.1 Power on RAP.

Go to Flag 1 and Flag 2 and check for an open wire. If OK, replace the Control Panel Assembly.

All LEDs go out in approximately 10 seconds.
Y **N**

If the Power LED remains on (flashing), go to Flag 3 and check for an open wire. If OK, replace the Control Panel Assembly.

Press and hold the Power button for approximately 2 seconds to turn on the printer.

Press and hold the **Resume/FF** button for 2 seconds.

Paper feeds.
Y **N**

Go to Flag 5 and check for an open wire.
If good, go to 8.1 Paper Feed RAP.

A

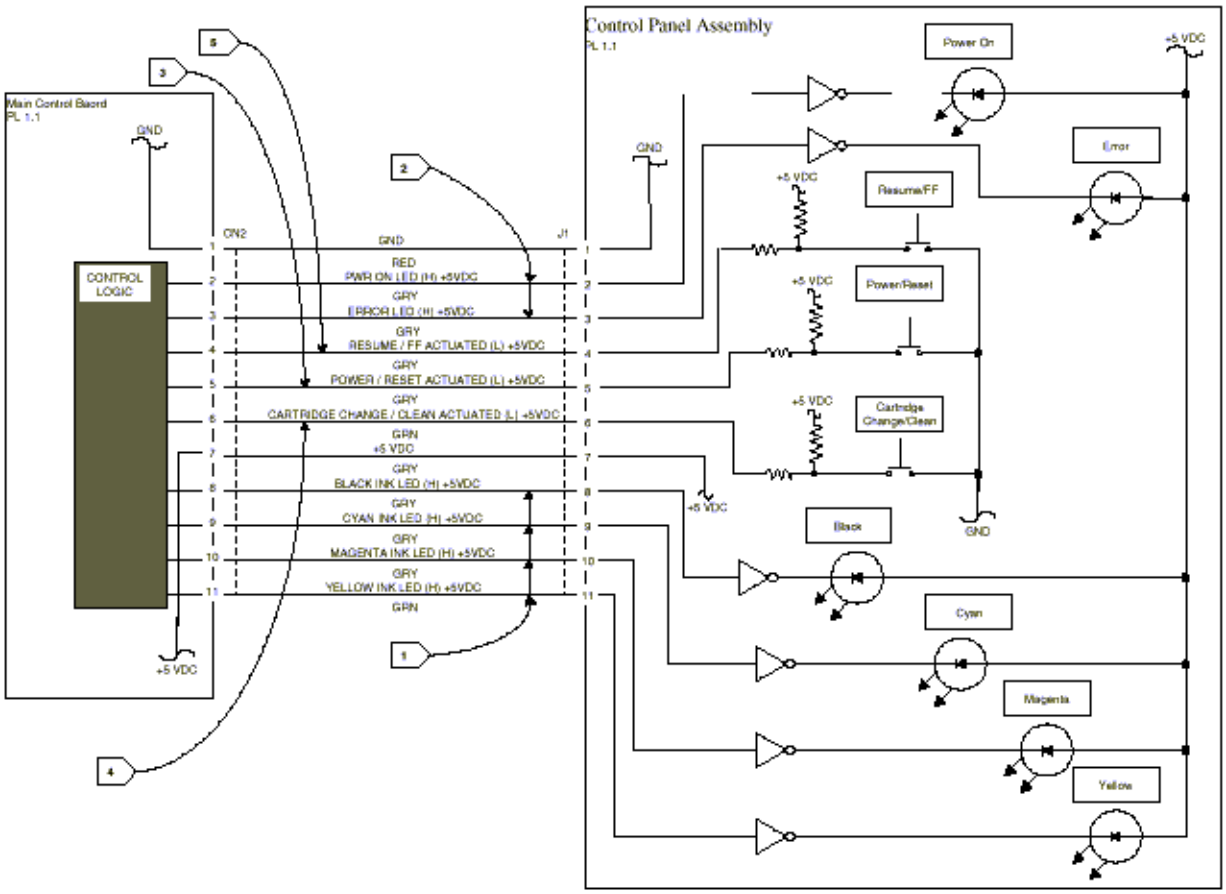
A
Press the Cartridge Change button.
The carriage moves to the center position.
Y **N**

Go to Flag 4 and check for an open wire.
If OK, replace the Control Panel Assembly.

For printer set up problems when printing from a DOS application, consult GP 2 Printing with DOS Procedure in Section 6.

Examples of printer set up problems.

Just a few lines of data are printed and then the paper continues to line feed without printing.



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6.1 Carriage TAP

Disconnect and then reconnect the power cord.
Press and hold the Power switch.
The carriage moves.

Y **N**

- Go to Flag 1 and check the ribbon cable for being open or damaged.
- Go to Flag 2 and check for an open circuit. If the wire is good, replace the Main Control Board.
- Check / replace the ribbon carriage cable.
- Check the teeth on the belt.
- Check the teeth on the carriage motor.
- Check for 42 volts.
- If 42 volts aren't being supplied by the power supply, replace the power supply.
- Check / replace the carriage motor.

Perform the following:

- Check that the Printhead ribbon cable going to CN4 on the Main Control Board is connected properly.
- Go to Flag 2 and Flag 3 and check for an open circuit.
- If the wires are good, replace the Printhead Ribbon Cable (PL 2.1---see Chapter 5).
- If the problem continues replace the Main Control Board (PL 1.1).
    - Check / replace the ribbon carriage cable.
    - Check the teeth on the belt.
    - Check the teeth on the carriage motor.
    - Check for 42 volts.
    - If 42 volts aren't being supplied by the power supply, replace the power supply.
    - Check / replace the carriage motor.

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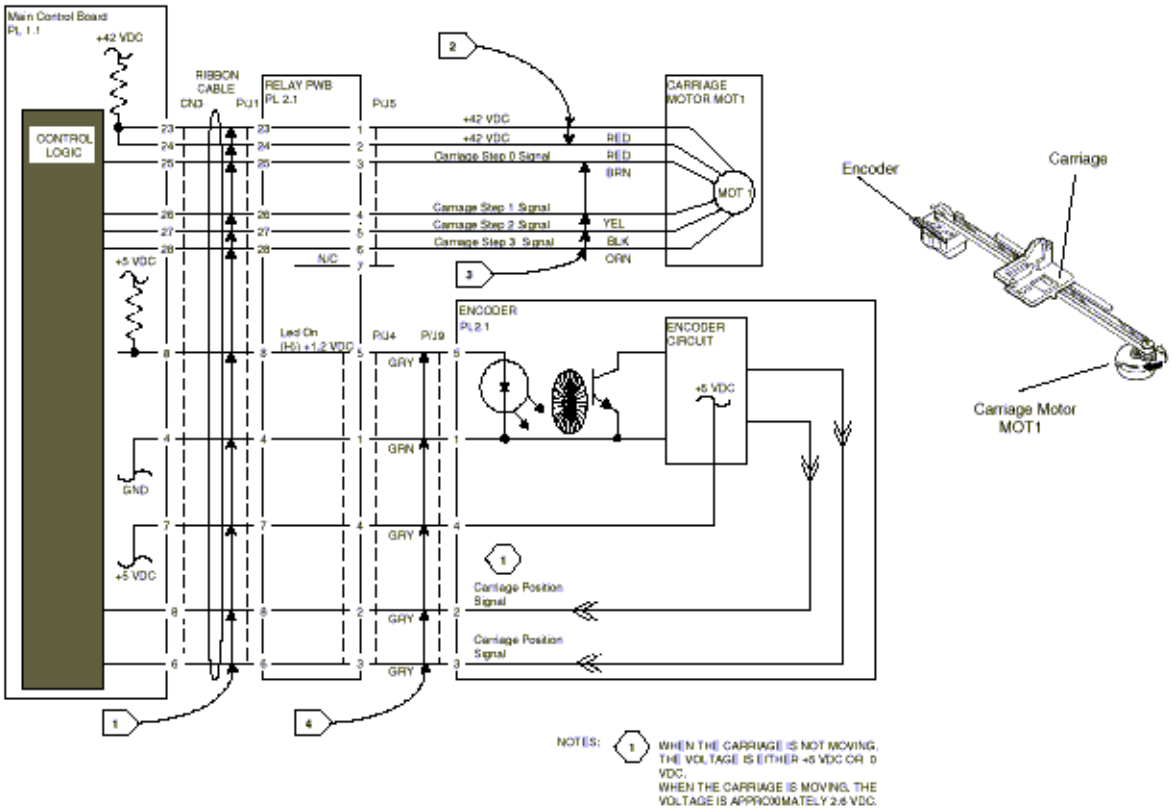
6.2 Encoder RAP

- Go to Flag 1 and check the ribbon
- Go to Flag 4 and check for an open circuit.
- Replace the Encoder.
- Go to 6.1 Carriage RAP.



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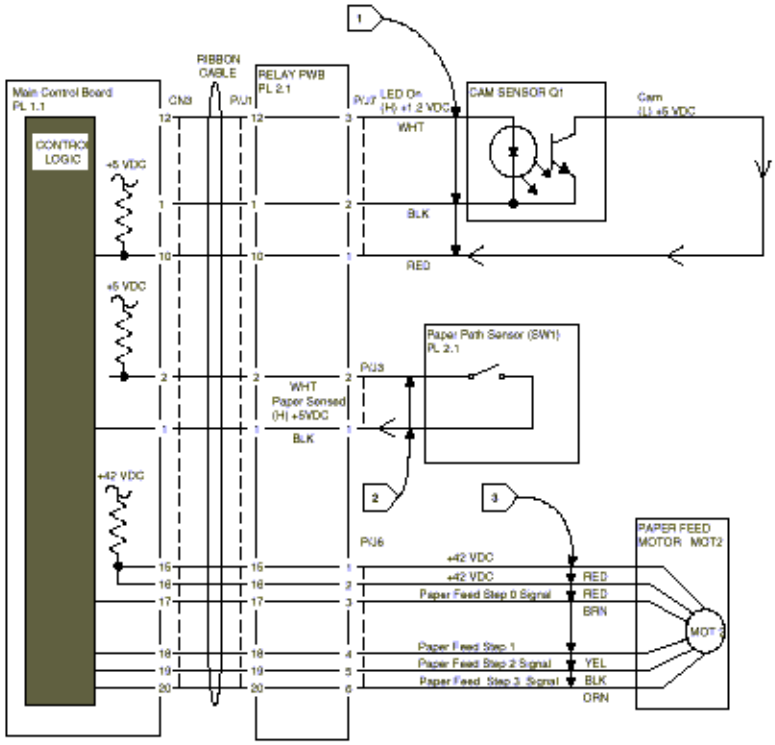
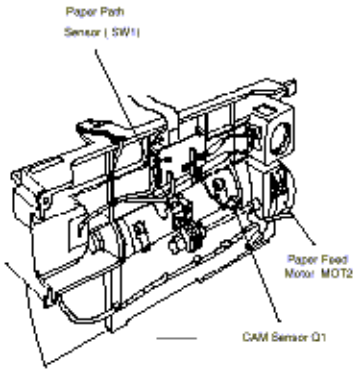
8.1 Paper Feed RAP

Clear any paper in the printer.
Disconnect and then reconnect the power cord.
Press and hold the Power switch for about 2 seconds.
Press and hold the **Resume/FF** button for 2 seconds to print the demo print.
The paper feeds or partially feeds.
Y N

- Check that the Paper Tray is installed correctly (REP 1.1)
- Go to Flag 1 and check the cam sensor circuit for an open.
- If OK, go to Flag 3 and check for an open circuit. If paper feed motor circuit is defective, replace the paper feed motor.
- If the wires are good, replace the Main Control Board.

- Go to Flag 2 and check the paper feed switch circuit for an open.
- If OK, go to Flag 3 and check for an open circuit.
- Replace the Back pad.
- If the problem still exists, replace the Main Control Board.





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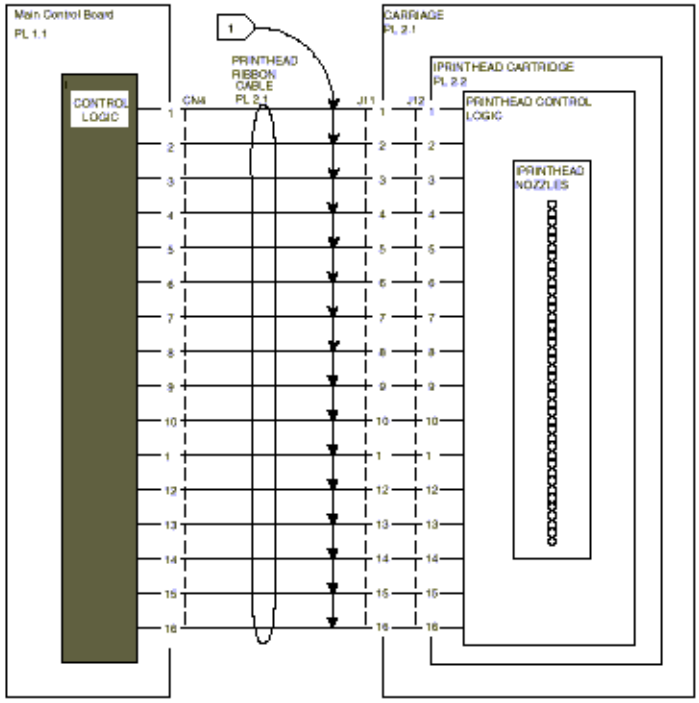
9.1 Blank Print RAP

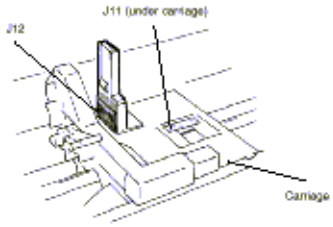
Initial Action:

Ensure that the Printhead latch is positioned towards the rear.

Unlatch the Printhead, reset the Printhead and latch it back into position. If problem still exists:

- Replace the Printhead.
- Go to Flag 1 and check the ribbon cable for being damaged.
- Check the terminals of J11 on the Carriage Assembly and J12 on the Ink Cartridge for being contaminated or damaged. Clean or repair as necessary.
- If the problem still exists, replace the Printhead Ribbon Cable (PL 2.1--see Chatper 5).





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IQ 1 Image Defect Entry RAP

1. Print the Test Print:

a. Load paper into the Paper Tray.

b. Press and hold the **Power on / Reset** button for approximately 2 seconds and then release, to switch the Printer power off.

c. While pressing and holding the **Resume/ FF** button press and release the **Power on / Reset** button. The printer prints the test print shown in Figure 1. When the test print is complete, the printer initializes and returns to the Ready status.

d. If the test print fails to print, repeat steps a through c.

2. Refer to the DEFECT Column in Table 1 that best describes the image quality problem.

3. If the problem is with external input only, replace the Main Control Board.

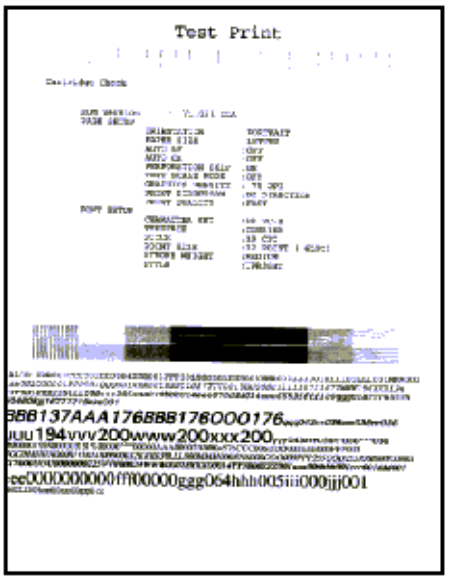

Figure 1. Test Print

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IQ 1 Image Defect Entry RAP Table

DEFECT	CAUSE	SOLUTION
Blank print	● Printhead	1. Remove and reinstall the Printhead. 2. Press the **Cartridge Change / Clean** button for 2 seconds to clean and restore the Printhead. Repeat if necessary. If the problem still exists go to the 9.1 Blank Print RAP.
White horizontal lines and Streaks	● The Printhead nozzles may be blocked.	Perform the following: 1. Press the **Cartridge Change / Clean** button for 2 seconds to clean and restore the Printhead. 2. Make another Test Print. If the print still has lines and streaks repeat the above process up to 5 times. 3. If the problem still exists, replace the Printhead.
Print is faint or missing	● A non recommended paper is being used or the paper is damp.	Replace the paper.
	● Defective Cartridge. ● The ink supply may be nearly empty. ● The Printhead nozzles may be blocked.	Perform the following: 1. Press and hold the **Cartridge Change / Clean** button for 2 seconds to clean and restore the Printhead. 2. Run a Test Print. If the print is still faint, repeat the process up to 2 more times. 3. If the problem is still not corrected replace the Printhead.
Blurry or jagged vertical lines	● Printhead Alignment	Perform ADJ 2.0 Printhead Alignment Procedure If the problem still exists switch the printer to the High Quality print mode (in the printer driver).
	● Paper	Turn the paper over to print on the opposite side.
Print image is clipped or off edge of media	● Print off edge of media.	Ensure that the Print Driver setup has the correct selection of media size and type.
	● Document margins may exceed printer margins.	Adjust margins in the application as necessary.

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REP 1.0 Printhead

Parts List on PL 2. 2

Removal

1. Open the Cartridge Cover (PL 1.1).

2. Center the carriage using either of the following procedures:

- Press the Cartridge Change / Clean button.

WARNING: Switch off the power. Disconnect the power cord from the wall outlet.

- Grasp and manually move the belt (PL 2.1) in order to center the Printhead (Figure 1).

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (See below to Refer to the Replacement / Priming section of this procedure.)

3. Move the Printhead lock lever toward the front of the printer.

4. Lift and remove the Printhead. Store it in the Storage Box.

Replacement / Priming

1. Install the Printhead onto the Printhead vertical guide.

2. Move the Printhead lock lever toward the rear of the printer.

3. Close the Cartridge Cover.

4. Press the Resume / FF button to prime the Printhead.

NOTE: The optional high capacity printhead is shown. Refer to the User's Documentation for illustrations of the standard printhead.

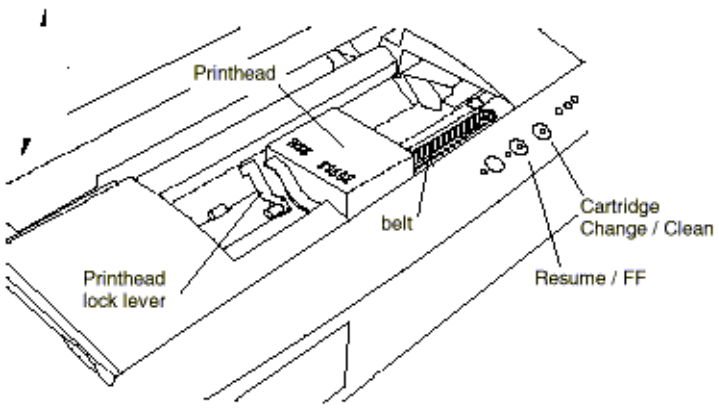

Figure 1.

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REP 1.1 Paper Tray Assembly

Parts List on PL 1. 1

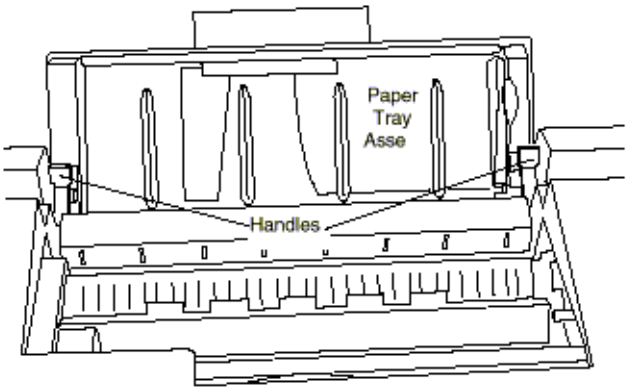
Removal

1. Remove the Output Tray (PL 1.1).

2. Press the two handles toward the rear of the printer to release the latches (Figure 1).

3. Pivot the Paper Tray Assembly toward the back of the printer to disengage the three tabs at the bottom of the Paper Tray Assembly from the tabs on the Paper Feed / Carriage Assembly.

4. Lift the Paper Tray Assembly from the printer.



0400111A-LAT

Figure 1.

Replacement

1. Retract the moveable face of the Paper Tray Assembly by pressing it toward the back of the Paper Tray Assembly.

2. Insert the Paper Tray Assembly into the printer (with bottom of tray touching the bottom of the tray opening on the printer) ensuring the moveable face is behind the white cam (near the bottom, on the left). See Figure 2.

3. Engage the three tabs at the bottom of the Paper Tray Assembly with the tabs on the Paper Feed / Carriage Assembly.

4. Rotate the Paper Tray Assembly toward the front of the printer.

5. Engage the two latches by gently pulling the handles downward and toward the front of the printer until the latches snap into position.

6. Reinstall the Output Tray.

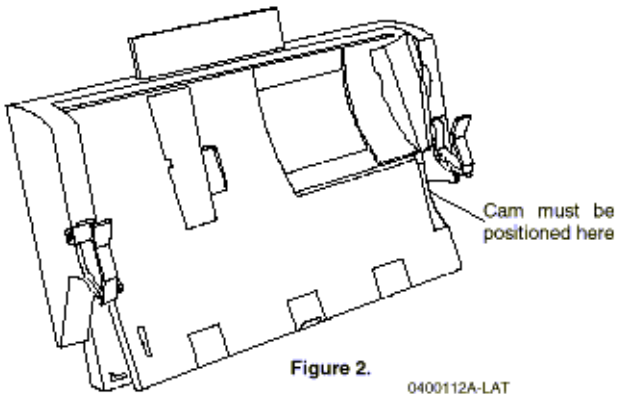


Figure 2.

0400112A-LAT

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REP 1.2 Cartridge Cover

Parts List on PL 1. 1

Removal

1. Open the Cartridge Cover (PL 1.1).

2. Utilizing a screwdriver or similar tool, slightly separate the Cartridge Cover and Top Cover at either pivot to release the Cartridge Cover pivot from the Top Cover (Figure 1).

3. Lift the Cartridge Cover from the printer.

Replacement

1. Insert either Cartridge Cover pivot into the corresponding Top Cover pivot hole.

2. Utilizing a screwdriver or similar tool, slightly separate the Cartridge Cover and Top Cover at the opposite pivot.

3. Position the Cartridge Cover pivot to engage with the pivot hole of the Top Cover.

4. Close the Cartridge Cover.

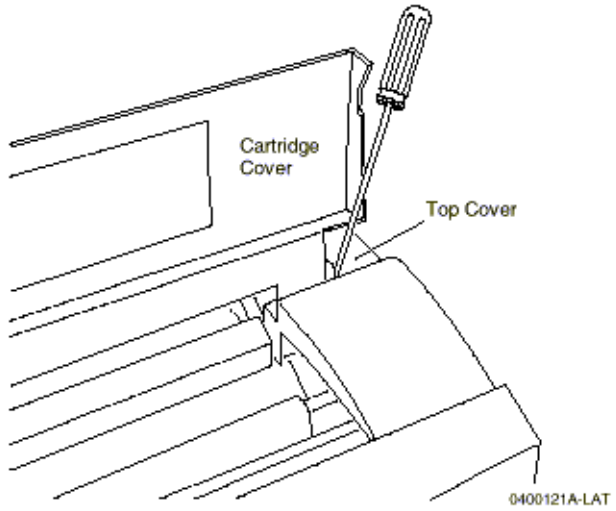

Figure 1.

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REP 1.3 Top Cover

Parts List on PL 1. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the cartridge removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after
reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord from the wall outlet.

2. Remove the Output Tray (PL 1.1).

3. Remove the Paper Tray Assembly (REP 1.1).

4. Remove the Cartridge Cover (REP 1.2).

5. Lay the printer on it's back; release the three front latch tabs (Figure 1).

CAUTION: While removing the Top Cover from the printer, take care not to damage the ribbon cable that is connected to the Control Panel Assembly, which is located inside the Top Cover.

NOTE: The rear of the Top Cover has three locator tabs and two latch tabs.

6. Return the printer to its normal operating position. Lift and hold the front of the cover slightly while releasing the two rear latch tabs. Then lift the rear of the cover and pivot towards the FRONT of the printer to remove.

Replacement

1. Ensure the ribbon cable is properly routed and not twisted during Top Cover installation.

2. If previously disconnected, reconnect ribbon cable to the Control Panel Assembly.

3. Position the Top Cover on the printer. Align and latch the rear latches; then the front latches.

4. Reinstall the following:

a. Cartridge Cover (REP 1.2)

b. Paper Tray Assembly (REP 1.1)

c. Output Tray (PL 1.1)

d. Printhead (REP 1.0)

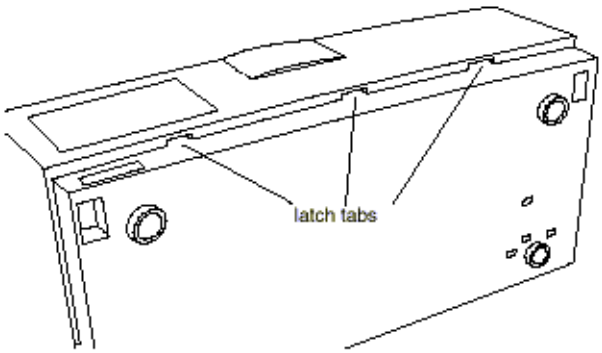

Figure 1. 0400131A-LAT

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REP 1.4 Exit Guide

Parts List on PL 2. 2

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord from the wall outlet.

2. Remove the Output Tray (PL 1.1).

3. Remove the Cartridge Cover (REP 1.2).

4. Position both thumbs at the lower, front corners of the Exit Guide (Figure 1). Apply modest pressure simultaneously toward the rear and up to unlatch the Exit Guide.

5. Rotate the guide approximately 90° up and toward the rear of the printer.

6. Lift the Exit Guide from the printer.

Replacement

1. Hold the Exit Guide so the star wheels (10) are facing the front of the printer.

2. Lower the Exit Guide into the printer to engage the pivots with the slots in the Paper Feed / Carriage Assembly.

3. Rotate the Exit Guide completely toward the front of the printer.

4. Position both thumbs at the lower, front corners of the Exit Guide (Figure 1). Apply moderate pressure simultaneously toward the rear and down to latch the Exit Guide.

5. Reinstall the Cartridge Cover (REP 1.2).

6. Reinstall the Output Tray (PL 1.1).

7. Reinstall the Printhead (REP 1.0).

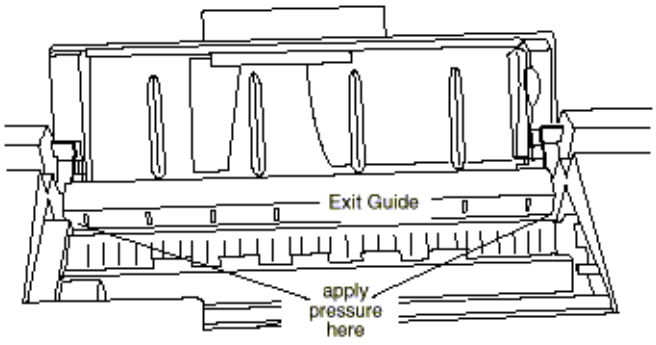

Figure 1.

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REP 1.5 Paper Feed / Carriage Assy.

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the Output Tray (PL 1.1).

3. Remove the Paper Tray Assembly (REP 1.1).

4. Remove the Cartridge Cover (REP 1.2).

5. Remove the Top Cover (REP 1.3).

6. Loosen screw; disconnect ground wire from ground plate near front, left corner of Paper Feed / Carriage Assembly (Figure 1).

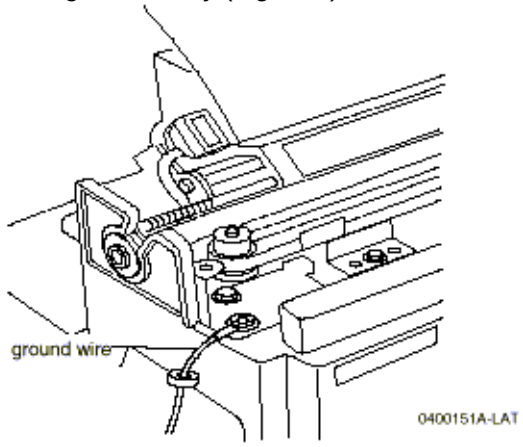


Figure 1. Left side

7. Disconnect ground wire from grounding plate at right side of printer (Figure 2).

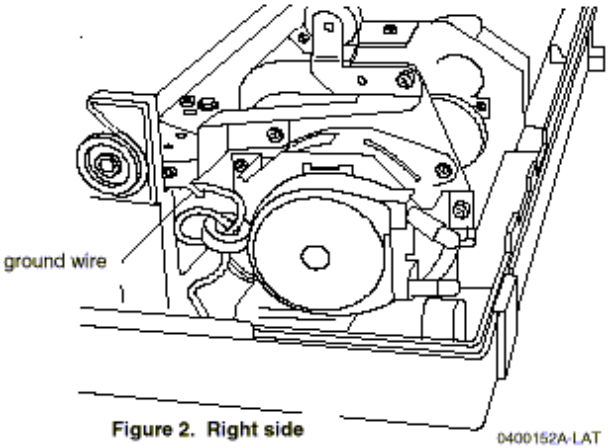


Figure 2. Right side

8. Remove the screws (2) from the two front corners of the Paper Feed / Carriage Assembly (Figure 3).

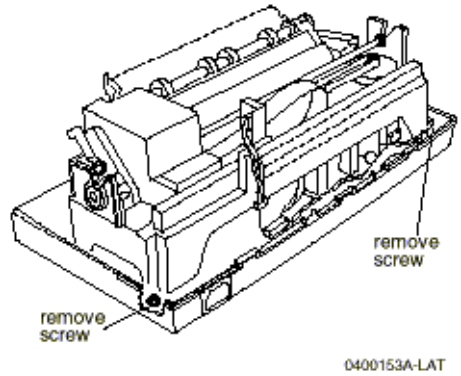


Figure 3.

9. Lift the front of the assembly slightly, then slide the assembly toward the front of the printer until it contacts the front wall of the base.

10. Lift the front of the assembly to access the Main Control Board ribbon cable connectors, CN3 & CN4; disconnect from the Main Control Board (Figure 4).

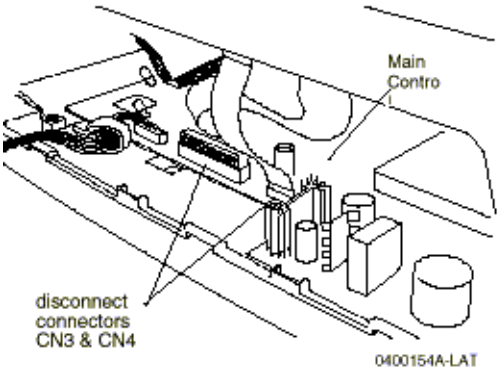


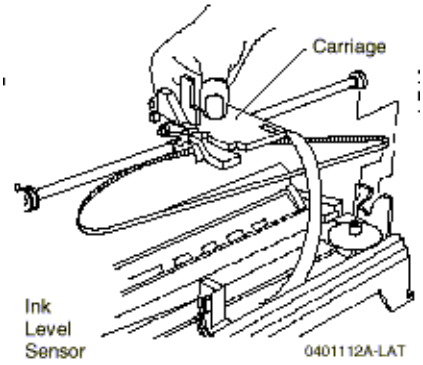
Figure 4.

11. Remove the assembly from the base.

Replacement

1. Lift the front of the assembly to access the Main Control Board ribbon cable connectors, CN3 & CN4; reconnect to the Main Control Board (Figure 4 - see above).

2. Allow the Paper Feed / Carriage Assembly to rest on the printer base. Slide the assembly rearward to engage the rear mounts.



3. Reinstall the two front screws.

4. Reconnect the ground wire to the ground plate on the right side of the printer.

5. Reconnect the ground wire to the ground plate on the left, front corner of the printer; tighten screw.

6. Reinstall the following:

a. Top Cover (REP 1.3)

b. Cartridge Cover (REP 1.2)

c. Paper Tray Assembly (REP 1.1)

d. Output Tray (PL 1.1)

e. Printhead (REP 1.0)

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REP 1.6 Power Supply

Parts List on PL 1. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink to dry out. Image quality defects a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the Power. Disconnect the power cord at the wall outlet.

2. Remove the Output Tray (PL 1.1).

3. Remove the Paper Tray Assembly (REP 1.1).

4. Remove the Cartridge Cover (REP 1.2).

5. Remove the Top Cover (REP 1.3).

6. Remove the Paper Feed / Carriage Assembly (REP 1. 5).

7. Disconnect Power Supply power cord connector CN1 from the Power Supply (Figure 1).

8. Remove the four mounting screws.

9. Slide the Power Supply toward the right side of the printer to disengage Power Supply connector CN2 from the Main Control Board connector CN1; lift the Power Supply from the printer.

Replacement

1. Position the Power Supply into the printer base.

2. Slide the Power Supply toward the left side of the printer to engage Power Supply connector CN2 with the Main Control Board (Figure 1).

3. Install the four mounting screws.

4. Reconnect the Power Supply power cord connector CN1.

5. Replace the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Top Cover (REP 1.3)

c. Cartridge Cover (REP 1.2)

d. Paper Tray Assembly (REP 1.1)

e. Output Tray (PL 1.1)

f. Printhead (REP 1.0)

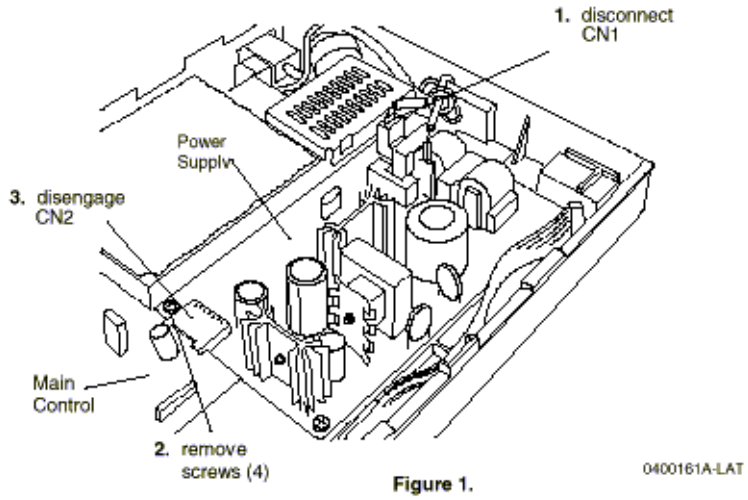

Figure 1.

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REP 1.7 Main Control Board

Parts List on PL 1. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the cartridge in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the Output Tray (PL 1.1).

3. Remove the Paper Tray Assembly (REP 1.1).

4. Remove the Cartridge Cover (REP 1.2).

5. Remove the Top Cover (REP 1.3).

6. Remove the Paper Feed / Carriage Assembly (REP 1. 5).

7. Remove the Power Supply (REP 1.6).

8. Disconnect Main Control Board connector CN2 from the Main Control Board (Figure 1).

NOTE: The two screws securing the PC interface cable connector to the Main Control Board are longer than the others. Ensure to replace them in their correct positions.

9. Remove the eight mounting screws and ground wire (Figure 1).

NOTE: It may be necessary to detach the ribbon cable and ferrite from the printer base before removing the Main Control Board.

NOTE: Exercise care not to deform the two PC interface cable connector wire-form locks during Main Control Board removal.

10. Remove the Main Control Board.

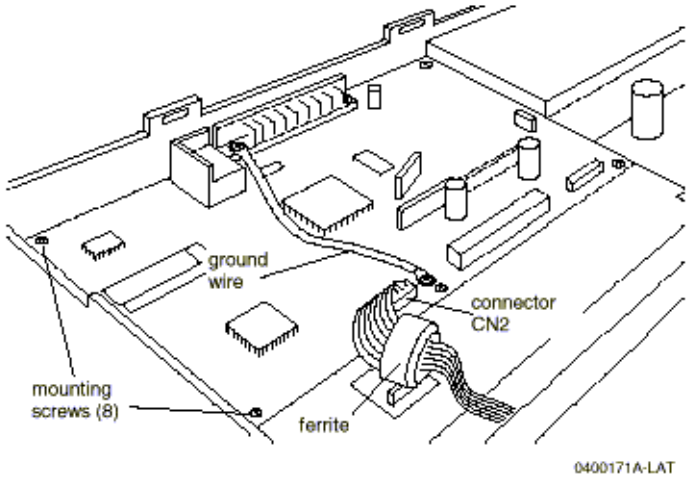

Figure 1. Main Control Board

Replacement

NOTE: There are 2 different length screws securing the Main Control Board. Be sure to reinstall the two longer screws through the PC interface cable connector.

1. Position the Main Control Board into the printer base.

2. Reinstall the ground wire as per Figure 1.

3. Reinstall mounting screws.

4. Reconnect connector CN2 to the Main Control Board.

5. If previously detached, reattach the ribbon cable and ferrite to the printer base.

6. Replace the following:

a. Power Supply (REP 1.6)

b. Paper Feed / Carriage Assembly (REP 1. 5)

c. Top Cover (REP 1.3)

d. Cartridge Cover (REP 1.2)

e. Paper Tray Assembly (REP 1.1)

f. Output Tray (PL 1.1)

g. Printhead (REP 1.0)

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REP 1.8 Waste Ink Pad

Parts List on PL 1. 1

Replacement

NOTE: There are 2 different length screws securing the Main Control Board. Be sure to reinstall the two longer screws through the PC interface cable connector.

1. Position the Main Control Board into the printer base.

2. Reinstall the ground wire as per Figure 1.

3. Reinstall mounting screws.

4. Reconnect connector CN2 to the Main Control Board.

5. If previously detached, reattach the ribbon cable and ferrite to the printer base.

6. Replace the following:

a. Power Supply (REP 1.6)

b. Paper Feed / Carriage Assembly (REP 1. 5)

c. Top Cover (REP 1.3)

d. Cartridge Cover (REP 1.2)

e. Paper Tray Assembly (REP 1.1)

f. Output Tray (PL 1.1)

g. Printhead (REP 1.0)

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Paper Feed / Carriage Assembly (REP 1. 5)

3. Remove Waste Ink Pad retainer by releasing the four locking tabs with screwdriver or other similar tool (Figure. 1).

Replacement

1. Ensure flange on one end of the pad retainer is toward the right side of the printer.

2. Snap the retainer into position.

3. Replace the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Top Cover (REP 1.3)

c. Cartridge Cover (REP 1.2)

d. Paper Tray Assembly (REP 1.1)

e. Output Tray (PL 1.1)

f. Printhead (REP 1.0)

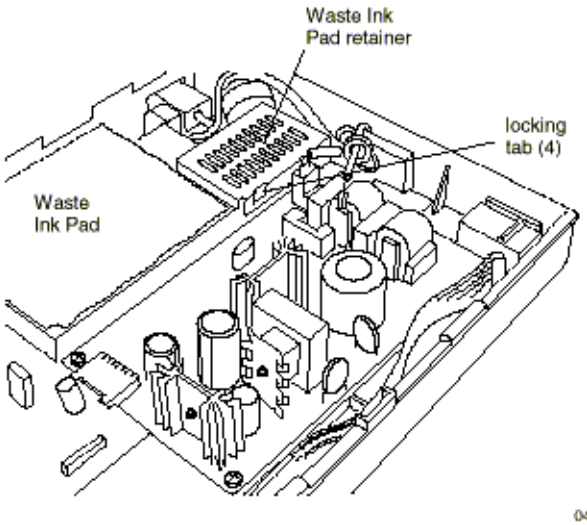

Figure 1.

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REP 1.9 Pump

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality defects or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Paper Feed / Carriage Assembly (REP 1. 5)

3. Remove the Pump from the Paper Feed / Carriage Assembly.

a. Note routing of inlet tube; disconnect tube at connector beneath Maintenance Station (Figure 1).

b. Note routing of outlet tube; remove cable tie; slide tube through frame.

c. Remove two Pump mounting screws. (Figure 2).

d. Slide pump from motor shaft.

Replacement

1. Install the pump onto the motor shaft.

2. Reinstall the two mounting screws.

CAUTION: Ensure the pump tubing is not kinked or otherwise restricted during reinstallation.

3. Route inlet tube as shown in Figure 1; reconnect; clamp into position.

4. Route outlet tube as shown in Figure 1; install two cable ties on tube at either side of frame to ensure tube exits onto Waste Ink Pad.

5. Reinstall the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Top Cover (REP 1.3)

c. Cartridge Cover (REP 1.2)

d. Paper Tray Assembly (REP 1.1)

e. Output Tray (PL 1.1)

f. Printhead (REP 1.0)

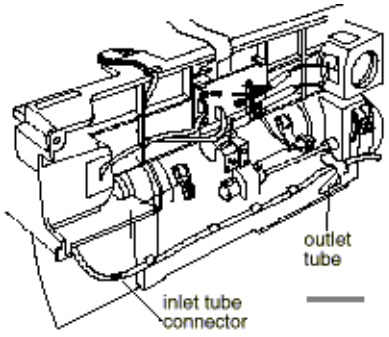

Figure 1.

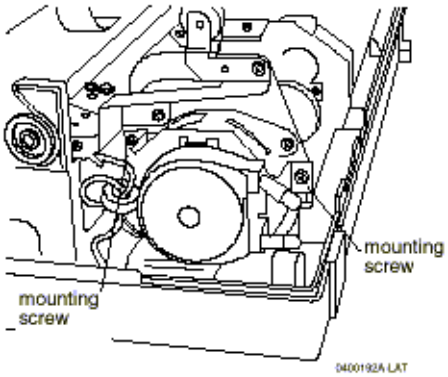

Figure 2.

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REP 1.10 Maintenance Station

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

3. Observe the routing of the tube from the Maintenance Station to the connector located below the Maintenance Station. Disconnect this tube at the tube connector.

4. Move the Printhead carriage to the extreme right side of the printer.

5. Remove the mounting screw (Figure 1).

6. Lift and hold the left side of the paper pressure baffle approximately six millimeters away from the Maintenance Station.

NOTE: Observe the tube routing during Maintenance Station removal.

7. Slide the Maintenance Station toward the front of the printer to disengage the mounting tabs, then lift upward to remove Maintenance Station from the printer.

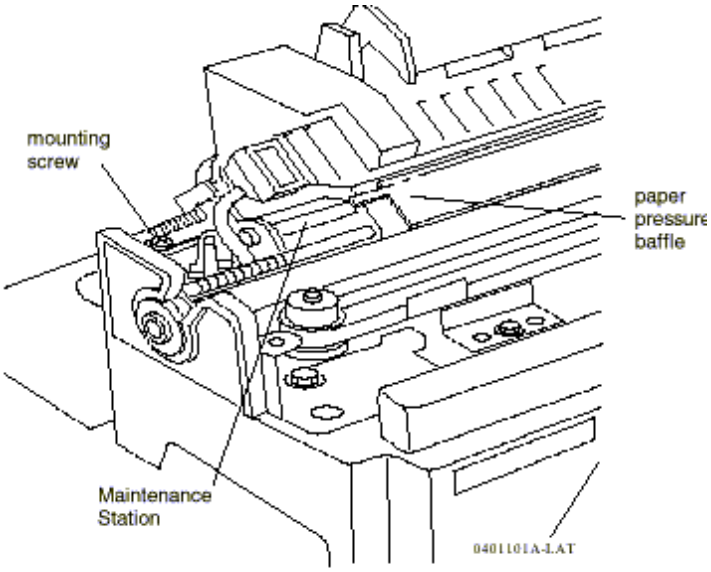

Figure 1.

Replacement

CAUTION: Ensure the Printhead carriage is positioned to the extreme right side of the printer.

1. Route the Maintenance Station tube as observed during removal.

2. Lift and hold the left side of the paper pressure baffle approximately six millimeters away from the Maintenance Station.

3. Lower the Maintenance Station into position to insert the mounting tabs.

4. Slide the Maintenance Station toward the rear of the printer to engage the mounting tabs.

5. Secure with mounting screw (machine threads).

6. Connect tube to its mating connector.

7. Ensure tube is routed between the pinch arm and the Maintenance Station body (Figure 2).

8. Reinstall the following:

a. Top Cover (REP 1.3)

b. Cartridge Cover (REP 1.2)

c. Paper Tray Assembly (REP 1.1)

d. Output Tray (PL 1.1)

e. Printhead (REP 1.0)

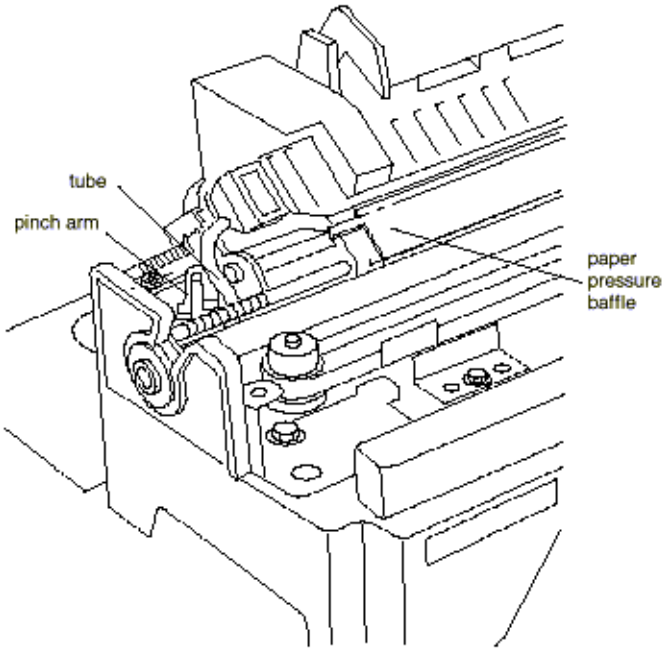

Figure 2.

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REP 1.11 Encoder

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Paper Output shelf (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Paper Feed / Carriage Assembly (REP 1. 5)

f. Maintenance Station (REP 1.10).

3. Remove the belt (PL 2.1) from the carriage motor pulley (right end).

4. Remove the belt from the Encoder pulley (left end).

CAUTION: A ribbon cable is attached to the bottom of the carriage assembly. Do not damage it while removing the carriage assembly.

5. Rotate the carriage shaft cams so that their flats are aligned with the sides of the slot on each side frame (Figure 1).

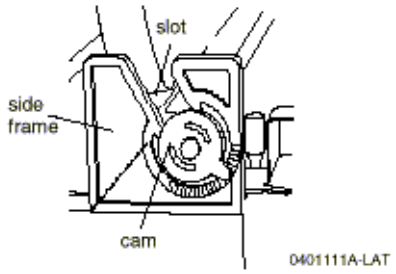

Figure 1.

NOTE: Expect moderate to heavy resistance when removing carriage end cams from printer side frames.

CAUTION: Ensure no portion of carriage is beneath ink level sensor during carriage removal. Simultaneously slide both cams from their respective slots (Figure 2).

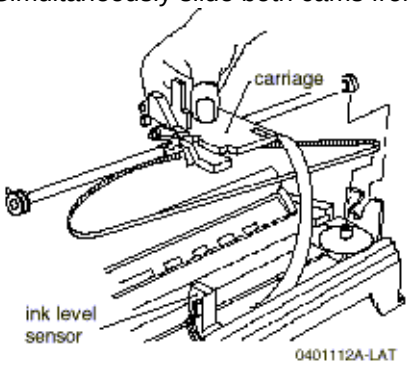

Figure 2.

CAUTION: Take care not to damage ribbon cable while removing the carriage.

6. Remove the carriage from printer side frames (Figure 2).

7. Position the Paper Feed / Carriage Assembly as shown in Figure 3..

8. Disconnect the Encoder connector (J4) from the Relay BOARD (Figure 3).

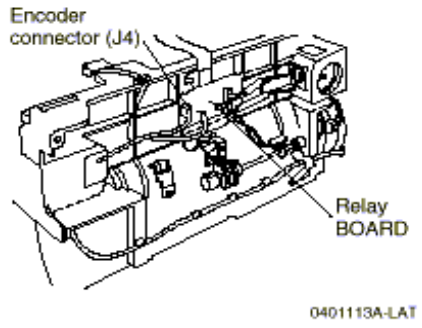

Figure 3.

NOTE: Observe Encoder harness routing before removing Encoder.

9. Release the Encoder harness from the carriage tabs.

10. Return the Paper Feed / Carriage Assembly to its upright position.

11. Remove the screw and ground strap (Figure 4).

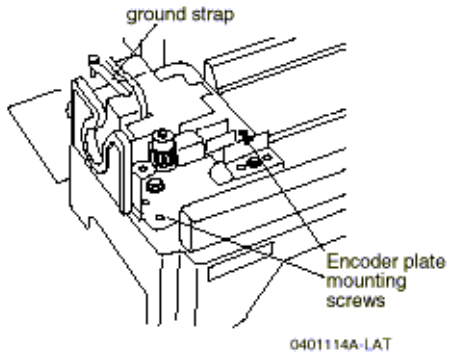

Figure 4.

12. Remove the two Encoder plate mounting screws; remove the Encoder plate and Encoder (Figure 4).

13. Disconnect harness from Encoder.

14. Remove the screw securing Encoder to Encoder plate; remove Encoder; retain spring.

Replacement

1. Position and hold the spring on the plate; install Encoder on the plate; reinstall the screw securing Encoder to the plate, but DO NOT tighten.

2. Route the Encoder harness through Paper Feed / Carriage Assembly.

3. Reinstall Encoder on Paper Feed / Carriage Assembly; install two mounting screws and the ground strap.

4. Reconnect Encoder harness (J4) to Relay Board; secure harness to carriage tabs.

Caution: It is physically possible to cross-connect the Encoder Harness (J4) and the Low-ink Sensor (J2) on the Relay Board since they use the same type of connector. By doing so, the Main Logic Board may be damaged.

5. Reinstall Maintenance Station; reinstall the machine screw.

6. Reconnect Maintenance Station tube.

7. Ensure tube is properly located behind the pinch arm. Consult Maintenance Station Replacement, REP 1.10.

8. Reinstall carriage into Paper Feed / Carriage Assembly. Ensure carriage ribbon cable is properly secured and not twisted.

9. Rotate both carriage shaft cams to align pointer with index mark (Figure 5).

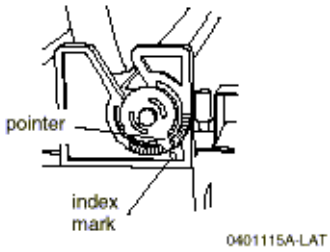

Figure 5.

10. Reinstall carriage belt onto Encoder pulley (left side).

11. Reinstall carriage belt onto drive motor pulley.

12. Tighten screw that secures Encoder to the plate.

13. Ensure both ground straps (left and right side) are firmly contacting the carriage shaft. Reform straps as required.

14. Reinstall the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Top Cover (REP 1.3)

c. Cartridge Cover (REP 1.2)

d. Paper Tray Assembly (REP 1.1)

e. Output Tray (PL 1.1)

f. Printhead (REP 1.0)

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REP 1.12 Control Panel Assembly

Parts List on PL 1. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

3. Position the Top Cover on its top.

NOTE: There is non-captured hardware under the Control Panel Assembly. **DO NOT** reposition the Top Cover with the control panel assembly board removed.

4. Remove the mounting screws (3) from the Control Panel Assembly; remove the board (Figure 1).

5. Disconnect the ribbon cable from the board.

Replacement

1. Connect the ribbon cable to the Control Panel Assembly.

2. Ensure the buttons and lenses are properly positioned in the Top Cover. Carefully install the board into the Top Cover. Secure with the three mounting screws.

3. Reinstall the following:

a. Reinstall the Top Cover (REP 1.3).

b. Reinstall the Cartridge Cover (REP 1.2).

c. Reinstall the Paper Tray Assembly (REP 1. 1).

d. Reinstall the Output Tray (PL 1.1).

e. Reinstall the Printhead (REP 1.0).

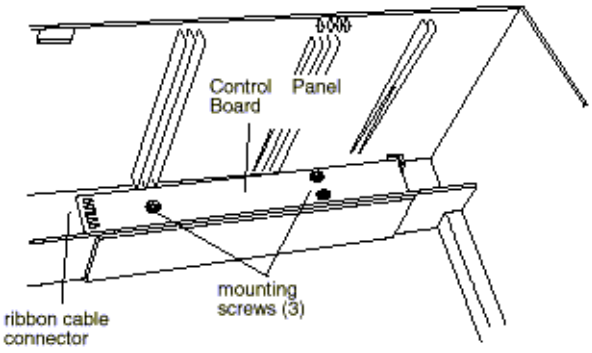

Figure 1.

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REP 1.13 Paper Path Sensor (SW 1)

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank print could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Exit Guide (REP 1.4)

f. Paper Feed / Carriage Assembly (REP 1. 5)

3. Position the Paper Feed / Carriage Assembly as shown in Figure 1.

4. Disconnect J3 from the Relay Board. See Figure 1.

5. Remove mounting screw.

6. Remove Paper Path Sensor.

Replacement

1. Position the Paper Path Sensor (SW 1) in the Paper Feed / Carriage Assembly. Reinstall the mounting screw.

2. Connect J3 to the Relay BOARD.

3. Reinstall the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Exit Guide (REP 1.4)

c. Top Cover (REP 1.3)

d. Cartridge Cover (REP 1.2)

e. Paper Tray Assembly (REP 1.1)

f. Output Tray (PL 1.1)

g. Printhead (REP 1.0)

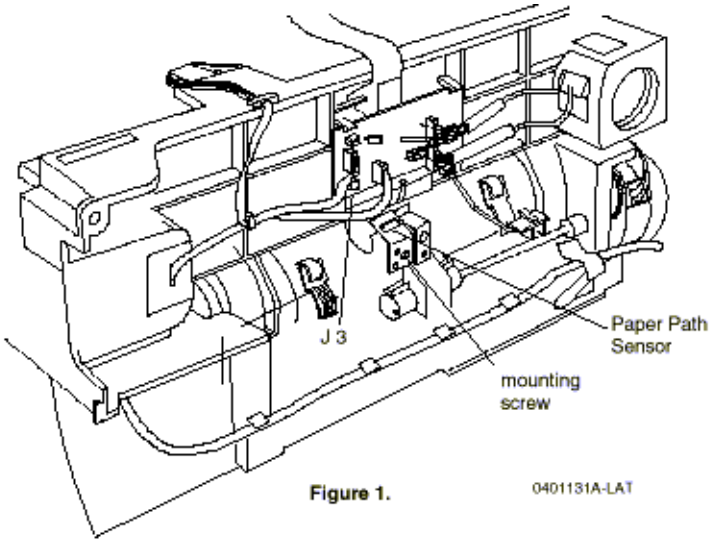

Figure 1.

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REP 1.14 Back Pad

Parts List on PL 2. 1

Removal

CAUTION: Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank print could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0). Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Exit Guide (REP 1.4)

f. Paper Feed / Carriage Assembly (REP 1. 5)

3. Position the Paper Feed / Carriage Assembly as shown in Figure 1

4. Remove the Back Pad mounting screw (Figure 1).

5. Remove the retainer bracket and spring.

6. Remove the Back Pad.

Replacement

1. Position the Back Pad in the Paper Feed / Carriage Assembly.

2. Reinstall the spring; then the mounting bracket.

3. Reinstall the mounting screw.

4. Reinstall the following:

a. Paper Feed / Carriage Assembly (REP 1. 5)

b. Exit Guide (REP 1.4)

c. Top Cover (REP 1.3)

d. Cartridge Cover (REP 1.2)

e. Paper Tray Assembly (REP 1.1)

f. Output Tray (PL 1.1)

g. Printhead (REP 1.0)

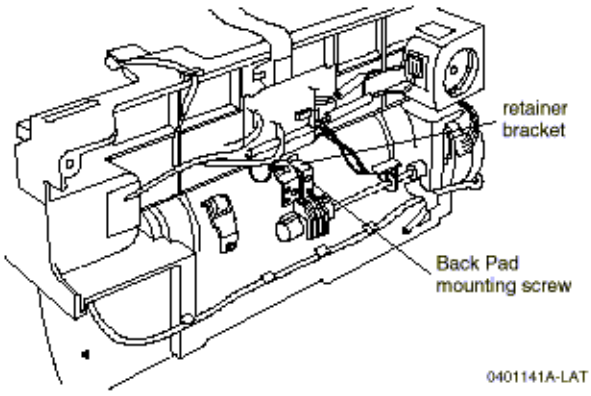

Figure 1.

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REP 1.15 Printhead Ribbon Cable

Parts List on PL 2. 1

Removal

CAUTION: Store the Printhead in the Storage Box. Leaving the Printhead removed for long periods of time will cause the ink nozzles to dry out. Image quality problems or a blank page could result. If necessary, prime the printhead after reinstallation. (REP 1.0)

1. Remove the Printhead (REP 1.0. Store the Printhead in the Storage Box.

WARNING: Switch off the power. Disconnect the power cord at the wall outlet.

2. Remove the following:

a. Output Tray (PL 1.1)

b. Paper Tray Assembly (REP 1.1)

c. Cartridge Cover (REP 1.2)

d. Top Cover (REP 1.3)

e. Paper Feed / Carriage Assembly (REP 1. 5)

3. Remove the belt (PL 2.1) from the carriage motor pulley (right end).

4. Remove the belt from the Encoder pulley (left end).

5. Rotate the carriage shaft cams so that their flats are aligned with the sides of the slot on each side frame (Figure 1).

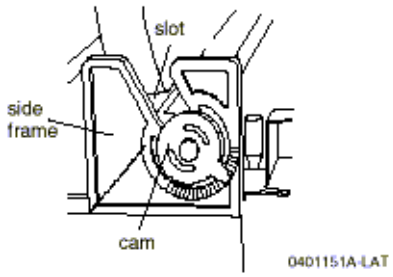

Figure 1.

NOTE: Expect moderate to heavy resistance when removing carriage from printer side frames.

CAUTION: Ensure no portion of carriage is beneath Ink Level Sensor during carriage removal. During

removal / replacement, it is necessary to simultaneously slide both cams from / to their respective slots. A ribbon cable is attached to the carriage board. Do not damage the jack or connector lock while removing carriage (Figure 2).

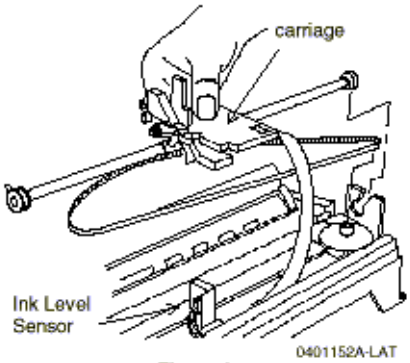

Figure 2.

6. Remove the carriage from the Paper Feed / Carriage Assembly.

7. Remove the carriage shaft from carriage.

8. Position the carriage upside down (Figure 3).

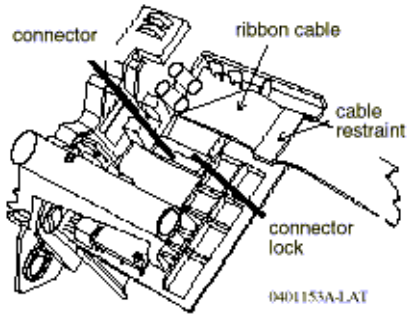

Figure 3.

9. Slide the lock to the unlocked position.

10. Disconnect the ribbon cable from the carriage board.

11. Slide the ribbon cable from the carriage cable restraint.

12. Note the installed position of the ribbon cable on the Paper Feed / Carriage Assembly in the area shown in Figure 4c.

13. Release the cable from the two cable edge restraints.

14. Slide the cable to the left through the 45° slot; then pull the cable upward and out through the slotted opening.